



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/069,359 | 02/25/2002 | Peter Hovell | 36-1536 | 8086 |

7590

05/27/2005

Nixon & Vanderhye
8th Floor
1100 North Glebe Road
Arlington, VA 22201-4714

| |
|----------|
| EXAMINER |
|----------|

NGUYEN, MINH CHAU

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2145

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,359

Applicant(s)

HOVELL ET AL.

Examiner

MINH-CHAU N. NGUYEN

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07/08/02, 02/13/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: for example, item 32A, 32B, 62B, 64B, etc in page 9-17 (in figure 2). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-18, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Regarding claims 1, 9, 10, 21, they are unclear as to what Applicant intends by the term "predetermined format" (in lines 23,24). The specification fails to explain it. The examiner will interpret "predetermined format" to mean any "standard format".
4. Claims 2-8, 11-18 are rejected as being dependent on the rejected claims.
5. As claim 1, it is also unclear as to what the difference is between the functionality of the terms "encapsulating" and "conversion".
6. Regarding claim 1 and 9 use of the term "else" vague and indefinite to provide a limitation of the claim in the alternative.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchiya et al. (Tsuchiya) (US 6,690,669 B1), in view of Watanuki et al. (Watanuki) (US 6,172,986 B1).
8. Regarding claim 1, Tsuchiya teaches an interface for use between a first network operating in accordance with a first transmission protocol and having network addresses in accordance with a first addressing convention herein referred to as first type addresses, and a second network operating in accordance with a

second transmission protocol and having network addresses in accordance with a second addressing convention, herein referred to as second type addresses, the interface having both a first type address and a second type address and comprising:

a protocol converter arranged to convert a message having a format in accordance with the first transmission protocol, herein referred to as a first type message, into a message having a format in accordance with the second transmission protocol, herein referred to as a second type message (i.e. the Ipv4-Ipv6 converting apparatus is a protocol converter) (Col. 8, L. 55 – Col. 11, L. 3);

an interface controller arranged to respond to receipt by the interface of a first type message from the first network (ex. the DNS substituting means 13 is an interface controller) (Col. 8, L. 55 – Col. 11, L. 3) by

examining the destination address of that first type message received from the first network to determine whether the first type message is of a predetermined format, and if so (Col. 8, L. 55 – Col. 11, L. 3),

sending to the protocol converter that first type message received from the first network (Col. 8, L. 55 – Col. 11, L. 3),

Tsuchiya fails to teach means for encapsulating. However, Watanuki, in the same field of endeavor having closely related objectivity, teaches means for encapsulating arranged to respond to receipt of a second type address together with a first type message by encapsulating that received first type message as the payload of a resulting encapsulating second type message, using that received

second type address as the destination address of the resulting encapsulating second type message and using the second type address of the interface as the source address of the resulting encapsulating second type message (Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39); and

deriving, directly or indirectly, from the destination address of that first type message, a second type address for use by the encapsulating means (see Watanuki, Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39), and

sending to the encapsulating means the derived second type address together with that first type message received from the first network (see Watanuki, Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Watanuki's teachings of means for encapsulating a second type address together with a first type message received from the first network, with the teachings of Tsuchiya in the communicating method between IPv4 terminal and IPv6 terminal and IPv4-IPv6 converting apparatus, for the purpose of providing the communication between the two terminals.

9. Regarding claim 2, Tsuchiya and Watanuki disclose the invention substantially as claimed. Tsuchiya teaches the controller is arranged to derive the second type address directly by retrieving it from a predetermined subaddress field of the destination address (Col. 8, L. 55 – Col. 11, L. 3).

10. Regarding claim 3, Tsuchiya teaches and Watanuki disclose the invention

substantially as claimed. Tsuchiya teaches the controller is arranged to derive the second type address indirectly by accessing, in accordance with the destination address, a look-up table having entries in the form of a first type address associated with a second type address, and retrieving the second type address of an entry having a first type address matching the destination address (i.e. the IP address conversion table 151 is a look-up table) (Col. 8, L. 55 – Col. 11, L. 3).

11. Regarding claim 4, Tsuchiya teaches each entry of the look-up table comprises a field for containing an identifier for identifying whether the controller is to send that first type message received from the first network to the protocol converter (Col. 8, L. 55 – Col. 11, L. 3).

Tsuchiya fails to teach the controller is to send the first type message received from the first network to the encapsulating means. However, Watanuki, in the same field of endeavor having closely related objectivity, teaches the controller is to send the first type message received from the first network to the encapsulating means (Col. 11, L. 1-25; and Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Watanuki's teachings of the controller is to send the first type message received from the first network to the

encapsulating means, in the teachings of Tsuchiya in the communicating method between IPv4 terminal and IPv6 terminal and IPv4-IPv6 converting apparatus, for the purpose of providing the communication between the two terminals.

12. Regarding claim 5, Tsuchiya and Watanuki disclose the invention substantially as claimed. Watanuki teaches the encapsulating means comprises a plurality of different encapsulators, each encapsulator being arranged to operate in accordance with a respective encapsulation type, and the controller is arranged to send that first type message received from the first network to the appropriate one of said plurality of different encapsulators in dependence upon the format of the destination address of that first type message (i.e. a plurality of different encapsulators is arranged to operate with a respective encapsulation type, such as IPv4 encapsulation or IPv6 encapsulation) (Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39).

13. Regarding claim 6, Tsuchiya and Watanuki disclose the invention substantially as claimed. Watanuki teaches encapsulating means comprises a plurality of different encapsulators, each encapsulator being arranged to operate in accordance with a respective encapsulation type, and the controller is arranged to send that first type message received from the first network to the appropriate one of said plurality of different encapsulators in dependence upon the format of the destination address of that first type message (i.e. a plurality of different

encapsulators is arranged to operate with a respective encapsulation type, such as IPv4 encapsulation or IPv6 encapsulation) (Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39); and

wherein each entry of the look-up table comprises a field for containing an identifier for identifying a type of encapsulation (ex. the mobile node management table 126 is the look-up table which contains the node address. Base on this address, it would identify a type of encapsulation) (Col. 11, L. 1-25; and Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39).

14. Regarding claim 7, Tsuchiya and Watanuki disclose the invention substantially as claimed. Watanuki teaches un-encapsulating an encapsulating second type message to retrieve its payload (i.e. un-encapsulating the IPv4 encapsulated IPv6 packet to retrieve its payload (i.e. the ordinary IPv6 packet)) (Col. 19, L. 10-39).

15. Regarding claim 8, Tsuchiya and Watanuki disclose the invention substantially as claimed. Tsuchiya teaches the protocol converter is further engaged to convert a second type message into a first type message (i.e. the IPv4-IPv6 converting apparatus converts the IPv4 packet (ex. second type message) into the IPv6 packet (i.e. first type message)) (Col. 21, L. 45-Col. 23, L. 14; and figure 19-21).

16. Regarding claim 9, Tsuchiya teaches a method of operating an interface between a first network and a second network, the first network having network addresses in accordance with a first addressing convention, herein referred to as first type addresses, and transmitting messages in accordance with a first transmission protocol, herein referred to as first type messages, and the second network having network addresses in accordance with a second addressing convention, herein referred to as second type addresses, and transmitting messages in accordance with a second transmission protocol, herein referred to as second type message, the method comprising the steps of:

examining the destination address of a first type message received from the first network (Col. 8, L. 55 – Col. 11, L. 3); and

if the destination address of that received first type message is of a first predetermined format, protocol converting that received first type message (Col. 8, L. 55 – Col. 11, L. 3);

Tsuchiya fails to teach means for encapsulating. However, Watanuki, in the same field of endeavor having closely related objectivity, teaches encapsulating that received first type message in accordance with the second transmission protocol, using, as the destination address of a resulting encapsulating second type message, a second type address derived, directly or indirectly, from the destination address of that received first type message (Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Watanuki's teachings of encapsulating the received first type message in accordance with the second transmission protocol, using, as the destination address of a resulting encapsulating second type message, a second type address derived, directly or indirectly, from the destination address of that received first type message, in the teachings of Tsuchiya in the communicating method between IPv4 terminal and IPv6 terminal and IPv4-IPv6 converting apparatus, for the purpose of providing the communication between the two terminals.

17. Regarding claim 11, Tsuchiya and Watanuki disclose the invention substantially as claimed. Watanuki teaches the second predetermined address format includes an identifier identifying an encapsulation type (i.e. the mobile node management table 126 is the look-up table which contains the node address. Based on this address, it would identify a type of encapsulation) (Col. 11, L. 1-25; and Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39).

18. Regarding claim 12, Tsuchiya and Watanuki disclose the invention substantially as claimed. Tsuchiya teaches the first predetermined format includes a first predetermined portion whose content identifies that received first type message as suitable for protocol conversion (i.e. the IPv6 destination address field of the packet is a first predetermined portion) (Col. 8, L. 55 – Col. 11, L. 3).

19. Regarding claim 13, Tsuchiya teaches the first predetermined format includes a first predetermined portion whose content identifies that received first type message as suitable for protocol conversion (Col. 8, L. 55 – Col. 11, L. 3).

Tsuchiya fails to teach the first predetermined format also includes a second predetermined portion whose content constitutes the second type address used as the destination address of a resulting encapsulating second type message.

However, Watanuki, in the same field of endeavor having closely related objectivity, teaches the first predetermined format also includes a second predetermined portion whose content constitutes the second type address used as the destination address of a resulting encapsulating second type message (Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Watanuki's teachings of the first predetermined format also includes a second predetermined portion whose content constitutes the second type address used as the destination address of a resulting encapsulating second type message, in the teachings of Tsuchiya in the communicating method between IPv4 terminal and IPv6 terminal and IPv4-IPv6 converting apparatus, for the purpose of providing the communication between the two terminals.

20. Regarding claim 15, Tsuchiya and Watanuki disclose the invention substantially as claimed. Tsuchiya teaches the examining step comprises the substeps of retrieving the destination address from the received first type message, and accessing a look-up table in accordance with the retrieved destination address (Col. 10, L. 25 – Col. 11, L. 3).

21. Regarding claim 17, Tsuchiya teaches the look-up table entries include a first identifier field containing an identifier identifying that first type message is to be protocol converted, and including the steps of retrieving the identifier from the first identifier field of the entry having its first type address matching the destination address, and checking that the retrieved identifier is consistent with protocol conversion is to be preformed upon that received first type message (Col. 8, L. 55 – Col. 11, L. 3).

Tsuchiya fails to teach whether that first type message is to be encapsulated, and checking that the retrieved identifier is consistent with encapsulation is to be preformed upon that received first type message. However, Watanuki, in the same field of endeavor having closely related objectivity, teaches the first type message is to be encapsulated, and checking that the retrieved identifier is consistent with encapsulation is to be preformed upon that received first type message (Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Watanuki's teachings of the first type

message is to be encapsulated, and checking that the retrieved identifier is consistent with encapsulation is to be preformed upon that received first type message, in the teachings of Tsuchiya in the communicating method between IPv4 terminal and IPv6 terminal and IPv4-IPv6 converting apparatus, for the purpose of providing the communication between the two terminals.

22. Regarding claim 18, Tsuchiya and Watanuki disclose the invention substantially as claimed. Watanuki teaches the look-up table entries includes a second identifier field containing an identifier identifying an encapsulation type, and when there is a plurality of encapsulation types available, and including the steps of retrieving the identifier from the second identifier field of the entry having its first type address matching the destination address, and checking that the retrieved identifier is consistent with the type of encapsulation to be performed upon that received first type message (i.e. a plurality of encapsulation types, such as IPv4 encapsulation or IPv6 encapsulation) (Col. 14, L. 55-Col. 16, L. 22; and Col. 18, L. 20-Col. 19, L. 39).

23. Claim 10 is corresponding claim of claim 9. Therefore, it is rejected under the same rationale.

24. Claims 14,16 are corresponding method claim of apparatus claims 2,3.

Therefore, they are rejected under the same rationale.

25. Claim 21 is corresponding apparatus claim of method claim 9. Therefore, it is rejected under the same rationale.

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

- US 6,781,991 B1 Anderlind 08-2004
- 6,038,233 Hamamoto et al. 03-2000
- US 6,172,986 B1 Watanuki et al. 01-2001
- US 6,708,219 B1 Borella et al. 03-2004

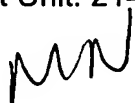
Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-CHAU N. NGUYEN whose telephone number is (571)272-4242. The examiner can normally be reached on Monday-Friday from 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VALENCIA M. WALLACE can be reached on (571)272-6159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2145

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Minh-Chau Nguyen
Art Unit: 2145



VALENCIA MARTIN-WALLACE
SUPERVISORY PATENT EXAMINER